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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/579,922	07/25/2006	Ettore Colico	3687-169	9815
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EXAMINER				
NGUYEN, HUNG D				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/579,922

Applicant(s)

COLICO ET AL.

Examiner

HUNG NGUYEN

Art Unit

3742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2006.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-22 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 25 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-893)
4) ☐ Interview Summary (PTO-413)
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____
Paper No(s)/Mail Date 7/25/2006

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. In claim 1, there is insufficient antecedent basis for "the emission" in line 9, "the information" in line 11, "the pumping" and "the active material" in line 14, "the operation of a modular" and "the resonant cavity" recited in line 15 in the claim.
4. In claim 7, there is insufficient antecedent basis for "the active material" recited in line 2 in the claim.
5. In claim 8, there is insufficient antecedent basis for "the power of the laser beam" recited in line 2 in the claim.
6. In claim 10, there is insufficient antecedent basis for "the gaseous state" recited in line 2 and "the radio frequency" recited in line 4 in the claim.
7. In claim 11, there is insufficient antecedent basis for "the solid state" recited in line 2 in the claim.
8. In claim 12, there is insufficient antecedent basis for "the active material" recited in line 12 and "the resonant cavity" recited in line 13 in the claim.

9. In claim 14, there is insufficient antecedent basis for "the bit map" recited in line 1-2 in the claim.
10. In claims 1-4, 6, 12-13, 15 and 18, the recitation "and/or" is considered indefinite per se.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 1, 7-9, 12 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taniguchi et al. (US Pat. 4,847,184) in view of Nerin et al. (US Pat. 6,047,012).
13. Regarding claims 1 and 12, Taniguchi et al. discloses an apparatus for transferring images to a wooden support 19 (Fig. 1) comprises: acquiring and or creating an image 11 (Fig. 1); one source of laser beam 15 (Fig. 1); means for moving the wooden support relative to the laser beam, as well as for focusing the laser beam relative to the support 17, 18 and 20 (Fig. 1); one adjustment unit 14 (Fig. 1) for the emission of the laser beam; means for converting the information 12 and 13 (Fig. 1) of the image into instructions for at least one adjustment unit 14 (Fig. 1) and at least one control unit 12 (Fig.1) **except for** the adjustment unit adjusts the emission of said laser

beam by directly varying the pumping of the active material and/or by varying the operation of a modulator located within the resonant cavity of said source of a laser beam.

14. Nerin et al. teaches the micro laser with modulated emission frequency where the emission for a laser beam is adjustable without using an external modulator by varying the operation of a modulator located within the resonant cavity of the source of the laser beam or by direct varying the pumping of the active material (Col. 1, Line 24 to Col. 2, Line 39). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize in Taniguchi et al. the teaching of Nerin et al. in order to have at least one adjustment unit adjusts the emission of the laser beam by directly varying the pumping of the active material and/or by varying the operation of a modulator located within the resonant cavity of the source of a laser beam, for the purpose of controlling the laser beam.

15. Regarding claim 7, Taniguchi et al. further discloses the laser beam source is selected from gaseous material (Col. 6, Lines 35-39).

16. Regarding claim 8, Taniguchi et al. further discloses the power of the laser beam emitted from the laser beam source is 75 W of power (Col. 6, Lines 58-60).

17. Regarding claim 9, Taniguchi et al. further discloses the laser beam with a wavelength ranging from 1.06 μm for YAG laser (Claim 12) and 10.6 μm for CO₂ gas laser (Claim 11).

18. Regarding claim 22, Taniguchi et al. further discloses the wooden support is treated by means of additives for accelerating the carbonization and bleaching thereof,

prior to the step of operating the moving and focusing means and at least one adjustment unit according to said instruction for reproducing said image on said wooden support (Col. 5, Lines 6-29).

19. Claims 2, 4, 6, 13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taniguchi et al. (US Pat. 4,847,184) in view of Nerin et al. (US Pat. 6,047,012) and further view of Connor (US Pub. 2005/0006357).

20. Regarding claims 2 and 13, the combined references disclose all the claimed features as set forth above **except for** the image is in digital format, characterized in that the means for acquiring and/or creating an image in digital format are configured for obtaining and storing bitmap or raster or vectorial images, in black and white and/or shades of grey.

21. Connor teaches the process for transferring a photo image to a medium where the scanner 40 (Fig. 1) converts a hardcopy image 30 (Fig. 1) into a digital format (Par. 17). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize in the combined references the teaching of Connor in order to have the image is in digital format, for the purpose of editing the image by the editing software.

22. Regarding claim 4, Taniguchi et al. discloses the means for acquiring and/or creating an image comprises at least one processor 12 (Fig. 1) except for a software for image processing. Connor teaches the process for transferring a photo image to a medium where the image editing software is use to edit the photo (Par. 10). It would

have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize in the combined references the teaching of Connor in order to have the image is in digital format, for the purpose of enhancing the photo image.

23. Regarding claim 6, Taniguchi et al. discloses the means for acquiring and/or creating an image comprises at least one processor 12 (Fig. 1); converting the information of the image into instructions for the adjustment unit 14 (Fig. 1) and for the control unit 12 (Fig. 1) except for the CAD software. Connor teaches the process for transferring a photo image to a medium where the Corel Photo Paint is used for adjusting the contrast, brightness, and visual effects in image (par. 18). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize in the combined references the teaching of Connor in order to have the means for acquiring and/or creating an image and means for converting the information of one image into instructions for the adjustment unit and for the control unit, as well as at least one adjustment unit and at least one control unit comprise at least one processor provided with a CAD and/or CAE and/or CAM software system, for the purpose of adjusting the visual effects of the image.

24. Regarding claim 15, the combined references disclose all the claimed features as set forth above except for the image is acquired and/or created in black and white or in shades of grey. Connor teaches the process for transferring a photo image to a medium where the image is converts to a grayscale image (Par. 18). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize in the combined references the teaching of Connor in order to have the image is

acquired in shades of grey, for the purpose of converting the image that is compatible with the laser system.

25. Claims 10 and 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Taniguchi et al. (US Pat. 4,847,184) in view of Nerin et al. (US Pat. 6,047,012) and further view of Arvidsson et al. (US Pat. 6263004).

26. Regarding claim 10, Taniguchi et al. discloses the active material of the source of a laser beam is a material in a gaseous state (Col. 6, Lines 35-39) **except for** adjustment unit for the laser beam emission comprises means for directly varying the excitation of the radio frequency pumped source.

27. Arvidsson et al. teaches a Q-switched laser where the modulation of the pump laser source is controlled by varying the frequency during the operation period (Col. 5, Lines 38-44). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize in the combined references the teaching of Arvidsson et al. in order to have the active material of the source of a laser beam is in the gaseous state and wherein the adjustment unit for the laser beam emission comprises means for directly varying the excitation of the radio frequency pumped source, for the purpose of controlling the modulation thereby controlling the emission of the laser.

28. Regarding claim 11, Nerin et al. discloses the active material of the source of a laser beam is a material in the solid state (Col. 2, Line 25) **except for** the adjustment unit for the laser beam emission comprises a Q-Switch modulator placed inside the resonant cavity. Arvidsson et al. teaches a Q-switched laser where the Q-Switch active

modulator 6 (Fig. 1) is placed inside the laser cavity 1 (Fig. 1). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize in the combined references the teaching of Arvidsson et al. in order to have the active material of the source of a laser beam is a material in the solid state and wherein the adjustment unit for the laser beam emission comprises a Q-Switch modulator placed inside the resonant cavity, for the purpose of controlling the laser pulse at exactly determinable time.

29. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Taniguchi et al. (US Pat. 4,847,184) in view of Nerin et al. (US Pat. 6,047,012) and Connor (US Pub. 2005/0006357) and further view of Nims et al. (US Pub. 2002/0113829).

30. Regarding claim 14, the combined references disclose all the claimed features as set forth above **except for** the image is in the bitmap format.

31. Rhoads teaches the method and apparatus for direct printing on a lenticular foil where the digital image is converted to raster format (Par. 35) for engraving. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize in the combined references the teaching of Nims in order to have the image is in raster format, for the purpose of converting the image to a printable format.

32. Claims 16 and 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Taniguchi et al. (US Pat. 4,847,184) in view of Nerin et al. (US Pat. 6,047,012) and further view of McIlvaine (US Pub. 2005/0083551).

33. The combined references disclose all the claimed features as set forth above **except for:**

34. Regarding claim 16, the combined references fail to show the image is an image of wood grains.

35. Regarding claim 17, the combined references fail to show the image of wood grains is obtained by means of random generation.

36. McIlvaine teaches laminate flooring with custom image where the photographs are digitized, formatted, and enhanced to create digital images of wood grain that can be used on flooring planks and the wood grain are random (Par. 5).

37. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize in the combined references the teaching of McIlvaine in order to have the image is an image of wood grains and the image of wood grains is obtained by means of random generation, for the purpose of reproducing the color and grain pattern of the particular wood.

38. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Taniguchi et al. (US Pat. 4,847,184) in view of Nerin et al. (US Pat. 6,047,012) and further view of Lang (US Pat. 4,315,379).

39. Regarding claim 18, the combined references disclose all the claimed features as set forth above **except for** the wooden support is selected from pistol or carbine grips, rifle butts and/or forearms.

40. Lang teaches the hand gun grip concealed fasteners where the grip 12 (Col. 1, Line 6-7) is made of wood. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize in the combined references the teaching of Lang in order to have the wooden support is selected from pistol grips, for the purpose decorating the wooden grips.

41. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Taniguchi et al. (US Pat. 4,847,184) in view of Nerin et al. (US Pat. 6,047,012) and further view of Nosaka et al. (JP Pat. 2001205463)

42. Regarding claim 19, the combined references disclose all the claimed features as set forth above **except for** the laser beam to penetrate within the wooden support by a thickness ranging from 0.1 and 1 mm.

43. Nosaka teaches the method of mark engraving on transmission belt where the mark 10 (Fig. 1) which depth is 0.1-1mm is engrave by a laser beam 21. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize in the combined references the teaching of Nosaka et al. in order to have the laser beam to penetrate within the wooden support by a thickness ranging from 0.1 and 1 mm, for the purpose of engraving the mark deeply into the object that will remain for a long time.

44. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taniguchi et al. (US Pat. 4,847,184) in view of Nerin et al. (US Pat. 6,047,012) and further view of Ikegami (US Pat. 7,061,070).

45. The combined references disclose all the claimed features as set forth above **except for:**

46. Regarding claim 20, the combined references fail to show the laser beam is emitted such as to irradiate the surface of the support with an energy per surface unit ranging from 0 j/cm^2 to 43.7 j/cm^2 .

47. Regarding claim 21, the combined references fail to show the laser beam with an energy per surface unit ranging from 2.35 j/cm^2 to 43.7 j/cm^2 , in order to blacken the surface portion of the support being subjected to the local irradiation.

48. Ikegami teaches the semiconductor device with fuse arrangement where the laser beam with the density from 4 j/cm^2 to about 7 j/cm^2 is used to cut the fuse. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize in the combined references the teaching of Ikegami in order to have the laser beam is emitted such as to irradiate the surface of the support with an energy per surface unit ranging from 0 j/cm^2 to 43.7 j/cm^2 and the laser beam with an energy per surface unit ranging from 2.35 j/cm^2 to 43.7 j/cm^2 for blacken the surface portion of the support with respect to claim 21, for the purpose of carving, decorating the wooden workpiece.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUNG NGUYEN whose telephone number is (571)270-7828. The examiner can normally be reached on Monday-Friday, 8:30AM-6PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu Hoang can be reached on (571)272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/HUNG NGUYEN/
Examiner, Art Unit 3742

/TU B HOANG/
Supervisory Patent Examiner, Art Unit 3742